CONTENTS OF VOLUME 39

Abraham, R. J. and **Bernstein, H. J.** A proton magnetic resonance investigation of rotational isomerism in 1,1,2,2-tetrachloro-1-fluoroethane, 39.

The analysis of nuclear magnetic resonance spectra. V. The analysis of deceptively simple spectra, 216.

The proton resonance spectra of some substituted furans and pyrroles, 905.

Abramovitch, R. A. and **Adams, K. A. H.** A new method for the deoxygenation of aromatic *N*-oxides, 2134.

Tryptamines, carbolines, and related compounds. Part IX. The cyclization of some nitro- and azido-phenylpyridines. Pyrido [1,2-*b*] indazole, 2516.

Abramovitch, R. A. and **Tertzakian, G.** Some neutral and acidic extractives from *Ceanothus americanus* L., 1733.

Abrell, J. W. See Hyne, J. B., 1657.

Ackman, R. G., Bannerman, M. A., Retson, M. E., and **Vandenheuvel, F. A.** Application of the Varrentrapp reaction to the preparation of long-chain dicarboxylic acids, 1730.

Ackman, R. G., Retson, M. E., Gallay, L. R., and **Vandenheuvel, F. A.** Ozonolysis of unsaturated fatty acids. I. Ozonolysis of oleic acid, 1956.

Adams, G. A. Constitution of a glucomannan from the sapwood of sugar maple (*Acer saccharum*), 2423.

See also Haq, S., 1165, 1563; Kooiman, P., 889; Siddiqui, I. R., 1595, 1683.

Adams, K. A. H. See Abramovitch, R. A., 2134, 2528.

Agrawal, O. P. See Kapoor, R. C., 2236.

Ahmad, A. and **Spenser, I. D.** The conversion of α-keto acids and of α-keto acid oximes to nitriles in aqueous solution, 1340.

Albinak, M. J., Bhatnagar, D. C., Kirschner, S., and **Sonnessa, A. J.** The effects of optically inactive ions on the rotatory dispersion of asymmetric complex ions, 2360.

Alexander, W. See Blackmore, W. R., 1888.

Allan, F. J. and **Allan, G. G.** The condensation of rhodanine and derivatives with 4-antipyrinaldehyde, 1397.

Allan, G. G. See Allan, F. J., 1397.

Allen, A. D. and **Schonbaum, G. R.** The mechanism of the alcoholysis of aliphatic nitrites. I. Alcoholysis of 1-methylheptyl nitrite in alkaline and neutral solution, 940.

The mechanism of the alcoholysis of aliphatic nitrites. II. Acid-catalyzed alcoholysis of 1-methylheptyl nitrite, 947.

Allen, M. See McRae, J. A., 995.

Amberg, C. H. See Little, L. H., 42; Taylor, J. H., 535.

Amos, A. A., Cooper, P. D., Nishizawa, E., and **Wright, G. F.** The acidity of nitroguanidine and its homologues, 1787.

Anet, F. A. L. Coupling constants in rigid five-membered rings. N.M.R. spectra of the camphane-2,3-diols, 789.

Some aspects of the nuclear magnetic resonance spectra of compounds containing C-methyl groups, 2262.

The N.M.R. spectrum of cyclopentanone, 2316.

Antonaccio, L. See Riggs, N. V., 1330.

ApSimon, J. W. and **Edwards, O. E.** Sandarac acids: 6β-hydroxysandaracopimaric acid, 2543.

Aravamudan, G. and **Ramaseshan, S.** Studies on the crystals separating from aqueous lithium nitrate solution, 256.

Arsenault, G. P. and **MacDonald, S. F.** Pyrroles related to porphobilinogen, 2043.

Arseneau, D. F. The differential thermal analysis of wood, 1915.

Ashbrook, A. W. and **Ritcey, G. M.** Spectrophotometric determination of aluminum in uranium metal and its compounds, 1109.

Atkinson, G. F. See McBryde, W. A. E., 510.

Aubin, R. See Rivet, E., 2343.

Azpeitia, E., Bowers, A., Crabbé, P., Mancera, O., Matthews, J. S., Reynosos, J., and **Salazar, J.** Chemical constituents of chicozapote, 2321.

Bader, R. F. W. and **Bourns, A. N.** A kinetic isotope effect study of the Tschugaeff reaction, 348.

Bader, R. F. W. and **Jones, G. A.** The Hellmann–Feynman theorem and chemical binding, 1253.

Bader, R. F. W. and **Westland, A. D.** The electronic spectra of $MoCl_5$ and $NbCl_5$, 2306.

Baerg, A. P. and **Bowes, G. C.** Search for the (n,t) reaction at 14 Mev in some medium weight nuclei, 684.

Bagchi, P. See Mukherjee, A. K., 1408; Rao, C. V. N., 375.

Bagli, J. F. and **L'Écuyer, Ph.** Arylation of quinones by diazonium salts. VII. Synthesis and structure of some aryl-chloro-*p*-benzoquinones, 1037.

Baig, M. M. and **Cullen, W. R.** The reaction of alkyl iodides with iodo-arsines in the presence of mercury, 420.

Bailey, A. S., Diaper, D. G. M., and **Schwemin, M. V. H.** Preparation and dehydration of di-(1-hydroxycycloalkyl)-alkanes, 1147.

Baker, H. A. See Garmaise, D. L., 1493.

Balasubramanian, A. See Rao, C. N. R., 171.

Baldwin, R. R., Booth, D., and **Brattan, D.** The decomposition of hydrogen peroxide in the presence of hydrogen, 2130.

Bannard, R. A. B. See Greenhalgh, R., 1017.
Bannard, R. A. B. and **Casselman, A. A.** Clam poison. II. Purification of clam poison residues of low toxicity by a heavy-paper technique, 1879.
Bannard, R. A. B. and **Hawkins, L. R.** Cyclohexane compounds. III. The 1-methoxy- and 1-ethoxy-2-hydroxy-3-bromocyclohexanes, 1530.
Bannerman, M. A. See Ackman, R. G., 1730.
Barclay, L. R. C. See Harrison, W. A., 2086.
Barclay, L. R. C., Gray, A. H., and **Milligan, C. E.** Friedel–Crafts rearrangements in branched condensed ring systems. I. Octamethyloctahydroanthracene, 870.
Barnard, P. W. C. and **Robertson, R. E.** The hydrolysis of a series of straight-chain alkyl methanesulphonic esters in water, 881.
Barnes, W. H. See Gupta, M. P., 1739.
Barr, J., Gillespie, R. J., and **Robinson, E. A.** The sulphuric acid solvent system. Part II. Conductivity measurements on solutions of some acids, 1266.
Bartlett, N. and **Yu, K. C.** The preparation and some properties of germanium difluoride, 80.
Bartocha, B. See Fetter, N. R., 2001.
Bastien, I. J. See Jellinek, H. H. G., 2056.
Bauer, S. H., Kiefer, J. H., and **Loader, B. E.** A study of the emission intensities of Cr lines from shocked gases containing $Cr(CO)_6$, 1113.
Bavin, P. M. G. Aliphatic chemistry of fluorene. Part VII. Spirolactones, 2035.
Bayes, K. D. A study of the CN emission from active nitrogen flames, 1074.
Bayley, C. H. See Gingras, B. A., 973.
Beeckmans, J. See Weiler, R. R., 1360.
Beg, M. A. A. and **Clark, H. C.** Chemistry of the trifluoromethyl group. Part II. Nickel (II) complexes of trifluoromethyl phosphines, 595.
Chemistry of the trifluoromethyl group. Part III. Phenylbistrifluoromethylphosphine and related compounds, 564.
Bell, K. M. and **McDowell, C. A.** The mercury-photosensitized oxidations of hydrocarbons. Part I. Interaction of mercury with products formed in the reacting mixture, 1419.
Mercury-photosensitized oxidations of hydrocarbons. Part II. The mercury-photosensitized oxidation of isobutane, 1424.
Berlinguet, L. See Tailleur, P., 1309.
Bernstein, H. J. See Abraham, R. J., 39, 216, 905.
Betts, R. H. See Glentworth, P., 1049.
Bhatnagar, D. C. See Albinak, M. J., 2360.
Bhiwandker, N. C. See Westland, A. D., 1284, 2353.
Bidinosti, D. R., Irish, D. E., and **Tomlinson, R. H.** The thermal neutron fission yields of U^{233}, 628.
Billy, J. M., Favre, H., and **Lalancette, J. M.** Dérivés du triméthyl-1,8,8 bicyclo[3.2.1]octane. VI. Synthèse du (+)-triméthyl-5,8,8 bicyclo[3.2.1] octène-2, 835.
Bishop, C. T. See Perila, O., 815; Siddiqui, I. R., 1595.
Blackmore, W. R. and **Alexander, W.** The fractionation of polythene, 1888.
Blades, A. T. The hydrogen isotope effect in the pyrolysis of cyclopropane, 1401.
Blake, A. R., Henderson, J. F., and **Kutschke, K. O.** The reaction between methyl radicals and isobutane, 1920.
Blake, A. R. and **Kutschke, K. O.** The oxidation of di-*tertiary*-butyl peroxide, 278.
Bloor, J. E. Theoretical studies on the electronic spectra of substituted aromatic molecules. Part I. The intramolecular electron transfer model, 2256.
Bock, E. On the solubility of anhydrous calcium sulphate and of gypsum in concentrated solutions of sodium chloride at 25° C, 30° C, 40° C, and 50° C, 1746.
Bockris, J. O'M. See Inman, D., 1161; Kita, H., 1670.
Boddy, P. J. and **Steacie, E. W. R.** Hydrogen atom abstraction by ethyl-d_5 radicals. Part II, 13.
Boocock, G. and **Cvetanović, R. H.** Reaction of oxygen atoms with benzene, 2436.
Booth, D. See Baldwin, R. R., 2130.
Boudart, M. See Tsu, K., 1239.
Bourgon, M. See Boutin, D., 915.
Bourns, A. N. See Bader, R. F. W., 348; Fisher, F. B., 1736.
Boutin, D. and **Bourgon, M.** The electrical conductivity of liquid tin (II) sulphide, 915.
Bowden, J. P. See Schantz, E. J., 2117.
Bowers, A. See Azpeitia, E., 2321.
Bowes, G. C. See Baerg, A. P., 684.
Bradley, D. C. and **Carter, D. G.** Metal oxide alkoxide polymers. Part I. The hydrolysis of some primary alkoxides of zirconium, 1434.
Bradley, D. C. and **Holloway, H.** Metal oxide alkoxide polymers. Part II. The hydrolysis of tantalum pentaethoxide, 1818.
Bradley, D. C., Prevedorou, C. C. A., and **Wardlaw, W.** Intermolecular forces and liquid structure in some metal alkoxides, 1619.
Brattan, D. See Baldwin, R. R., 2130.
Brown, E. C., Heit, M. L., and **Ryan, D. E.** Phytic acid: an analytical investigation, 1290.
Brown, F. and **Oliver, B. H.** The kinetic energy of Cs^{136} primary fragments from fission of U^{235}, 616.
Brown, J. C. See Lewis, E. S., 954.
Brown, R. K. See Cope, O. J., 1695; Jamieson, N. C., 1765; Robinson, F. P., 1171; Scherf, G. W. H., 799, 856, 1388, 1613.

Brown, W. H., Felauer, E. E., and **Freure, R. J.** Some new components of royal jelly, 1086.
Brownstein, S. The proton resonance spectra of the 2,5-dimethyl-2,5-dimethoxy-3,4-diphenylhexanes, 1677.
Burnell, R. H. and **Mootoo, B. S.** Lycopodium alkaloids. Part IV. Alkaloids of Jamaican *Lycopodium clavatum* Linn., 1090.
Burns, J. W. See Stairs, R. A., 960.
Burstein, S. H. and **Ringold, H. J.** β,β,β,-Trifluorolactic acid, 1848.
Butler, J. P. and **Santry, D. C.** $Th^{232}(n,2n)Th^{231}$ cross section from threshold to 20.4 Mev, 689.
Buttery, R. See Engel, Ch. R., 1805.
Calvert, L. D. See Heyding, R. D., 955.
Camerman, N. and **Trotter, J.** Crystallographic data for ethyl 3,5-dinitrobenzoate, 2133.
Campbell, A. N., Kartzmark, E. M., and **Friesen, H.** The equilibrium diagrams, heats of mixing, dipole moments, densities, and boiling points of the system acetone–chloroform–benzene, 735.
Campbell, A. N., Kartzmark, E. M., and **Hutton, H. M.** The five-component system: lithium–sodium–potassium–sulphate–chloride–water, at 25° C, 1462.
Carson, D. F. See Harrison, W. A., 2086.
Carter, D. G. See Bradley, D. C., 1434.
Casselman, A. A. See Bannard, R. A. B., 1879.
Chambers, R. D., Clark, H. C., Reeves, L. W., and **Willis, C. J.** The fluorine magnetic resonance in the ions $[BF_4]^-$ and $[BF_3CF_3]^-$, 258.
Chambers, R. D., Clark, H. C., and **Willis, C. J.** Perfluoroalkyl derivatives of tin. II. Dimethyltrifluoromethyltin chloride, 131.
Chin, D. See Giguère, P. A., 1214.
Choudhury, D. See Mukherjee, A. K., 1408; Rao, C. V. N., 375.
Chubb, F. L. See Menard, M., 273, 729.
Ciccone, S. See Harrod, J. F., 1372.
Clark, H. C. See Beg, M. A. A., 564, 595; Chambers, R. D., 131, 258.
Clark, H. C. and **O'Brien, R. J.** Co-ordination compounds of nickel (II). Part II. New species of nickel (II) – salicylaldimine complexes, 1030.
Clayton, J. M. and **Eastham, A. M.** Cocatalysis in Friedel–Crafts reactions. IV. Boron fluoride – methanol, 138.
Clayton, J. W. and **Lee, C. C.** Rearrangement studies with C^{14}. XI. The formolysis of 2-phenylethyl-1-C^{14} *p*-toluenesulphonate with or without added sodium *p*-toluenesulphonate-S^{35}, 1510.
Clement, R. A. See McMichael, K. D., 957.
Cook, D. The donor characteristics of the carbonyl group. II. The effect of angular variations at the carbonyl group, 31.
Infrared spectra of 2,6-dimethyl-4-pyrone complexes, 1184.
Vibrational spectra of pyridinium salts, 2009.
Cooper, F. P. See McInnes, A. G., 1906.
Cooper, P. D. See Amos, A. A., 1787.
Cope, O. J. and **Brown, R. K.** The reduction of nitrobenzene by sodium sulphide in aqueous ethanol, 1695.
Coryell, C. D., Kaplan, M., and **Fink, R. D.** Search for correlations of most probable nuclear charge Z_P of primary fission fragments with composition and excitation energy, 646.
Cowie, J. M. G. and **Toporowski, P. M.** Association in the binary liquid system dimethyl sulphoxide – water, 2240.
Crabbé, P. See Azpeitia, E., 2321.
Cragg, L. H. and **van Oene, H.** Shear dependence in the viscometry of high polymer solutions. A new variable-shear capillary viscometer, 203.
Cullen, E. and **L'Écuyer, Ph.** Contribution à l'étude de la réaction de von Richter. I. Sur l'identification de quelques produits acides, 144.
Contribution à l'étude de la réaction de von Richter. II. Sur l'identification de produits neutres, 155.
Contribution à l'étude de la réaction de von Richter. III. Sur la réaction avec divers nitronaphtalènes, 382.
Contribution à l'étude de la réaction de von Richter. IV. Commentaires concernant la réaction, 862.
Cullen, W. R. Improved preparation of bistrifluoromethylarsine, 1855.
Perfluoroalkyl arsenicals. Part III. The preparation and properties of some new trifluoromethyl and heptafluoropropyl arsines, 2486.
See also Baig, M. M., 420.
Cullen, W. R. and **Trotter, J.** Crystal data for diphenylarsenicals, 2602.
Curcumelli-Rodostamo, M. See Harrison, W. A., 2086.
Cvetanović, R. J. See Boocock, G., 2436; Jones, G. R. H., 2444.
Dacey, J. R. See Pritchard, G. O., 1968.
Dasgupta, A. K. See Farrar, H., 681.
Davidson, D. W. Dielectric relaxation in liquids. I. The representation of relaxation behavior, 571.
The radio-frequency dielectric dispersion in solid ethyl stearate, 1321.
Dielectric relaxation in liquids. II. Isomeric pentanediols, 2139.
Davies, J. A., McIntyre, J. D., and **Sims, G. A.** Isotope effect in heavy ion range studies, 611.
Davies, J. A. and **Sims, G. A.** The range of Na^{24} ions of kiloelectron volt energies in aluminum, 601.
Dean, G. A. Studies on the pervanadium complex, 1174.
Deghenghi, R. and **Gaudry, R.** The synthesis of 17-α-fluoroprogesterone, 1553.

Diaper, D. G. M. Preparation of undecenol and undecenyl bromide, 1723.
See also Bailey, A. S., 1147.
Drouin, J. R. S. and **Yaffe, L.** Determination of the disintegration rate of nuclides decaying by electron capture, 717.
Dunell, B. A. See Grant, R. F., 359; Shaw, D. J., 1154.
Dunn, G. E., Krueger, P. J., and **Rodewald, W.** Hydrogen isotope effect in the amination of chlorobenzene by sodamide, 180.
Dunn, G. E. and **Prysiazniuk, R.** Rates of decarboxylation of substituted anthranilic acids in nitrobenzene solution, 285.
Dutcher, J. D. See Schantz, E. J., 2117.
Dutton, G. G. S. and **McKelvey, S. A.** The constitution of a hemicellulose of cherry wood (*Prunus avium* L. var. Bing), 2582.
Dutton, G. G. S. and **Murata, T. G.** The constitution of the hemicellulose of apple wood (*Malus pumila* L. var. Golden Transparent), 1995.
Dutton, G. G. S. and **Tanaka, Y.** Methylation of sugar mercaptals. II. L-Arabinose diethyl mercaptal, 1797.
Dyne, P. J., Fletcher, J. W., Jenkinson, W. M., and **Roy, L. P.** Radiation-induced exchange reactions in solutions of hydrogen in water, 933.
Dyne, P. J. and **Jenkinson, W. M.** Radiation chemistry of cyclohexane. III. Effect of benzene and iodine on the isotopic composition of radiolytic hydrogen from C_6D_{12}–C_6H_{12} mixtures, 2163.
Dyne, P. J. and **Stone, J. A.** Radiation chemistry of cyclohexane. IV. Primary product yields in the irradiation of cyclohexane, 2381.
Eastham, A. M. See Clayton, J. M., 138; Newall, C. E., 1752.
Edgecombe, F. H. C. and **Jardine, D. A.** A recording glass spiral manometer, 1728.
Edward, J. T., Holder, D., Lunn, W. H., and **Puskas, I.** Oxidation of cholest-4-en-3-one with periodate–permanganate, 599.
Edward, J. T., Morand, P. F., and **Puskas, I.** Stereochemical studies. III. Reactions of 4-oxa-5α-cholestan-3α-ol, a carbohydrate model, 2069.
Edwards, O. E. See ApSimon, J. W., 2543.
Edwards, O. E. and **Handa, K. L.** The alkaloids of *Corydalis govaniana*, 1801.
Eisenbraun, A. A. and **Purves, C. B.** Oxidation of wheat starch with alkaline hypochlorite, 61.
Eisenbraun, E. and **Purves, C. B.** Condensation of spruce periodate lignin with formaldehyde, 1518.
The cleavage of ethers by *t*-butylmagnesium bromide and cobaltous chloride, 2127.
Engel, Ch. R., Just, G., and **Buttery, R.** Steroids and related products. XVI. An improved synthesis of 11-dehydro-17α-methylprogesterone, 1805.
Enyo, M. See Kita, H., 1670.
Farrar, H., Dasgupta, A. K., and **Tomlinson, R. H.** Half-life of Cs^{137}, 681.
Favre, H. See Billy, J. M., 835.
Favre, H. and **Gravel, D.** Connaissance des *tert*-butyl-4 nitrométhyl-1 cyclohexanols-1 *cis* et *trans*, 1548.
Felauer, E. E. See Brown, W. H., 1086.
Ferron, J. L. Synthesis of symmetrical and unsymmetrical dialkylphosphinous chlorides, 842.
Fetter, N. R. and **Bartocha, B.** The chemistry of aluminum–nitrogen compounds. I. Reactions of trimethylaluminum and trimethylaluminum trimethylamine with several methylhydrazines, 2001.
Fink, R. D. See Coryell, C. D., 646.
Finlayson, A. J. See Lee, C. C., 260.
Fisher, F. B. and **Bourns, A. N.** Decarboxylation of aromatic carboxylic acids in isotopic studies, 1736.
Fisher, M. H., Nicholson, W. H., and **Stuart, R. S.** Nitro- and amino-imidazolesulphonamides, 501.
Carboxymethylmercapto and carboxymethylsulphonyl derivatives of nitroimidazole, 785.
Imidazole sulphonamides and related compounds, 1336.
Flengas, S. N. Electrode potentials of the uranium chlorides in fused alkali chloride solutions, 773.
Fletcher, J. W. See Dyne, P. J., 933.
Flood, E. A. See Kuroda, H., 1475, 1981.
Forbes, W. F. Light absorption studies. Part XVIII. The ultraviolet absorption spectra of bromobenzenes, 1131.
Light absorption studies. Part XIX. The ultraviolet absorption spectra of iodobenzenes, 2295.
Forbes, W. F. and **Myron, J. J. J.** Light absorption studies. Part XX. The ultraviolet absorption spectra and infrared carbonyl bands of benzoyl chlorides, 2452.
Frangatos, G. and **Taurins, A.** Steroids. V. Pyridinium betaines of 2-α-bromocholestan-3-one, 410.
Fraser-Reid, B., Jones, J. K. N., and **Perry, M. B.** The demethylation of sugars with hydrogen peroxide, 555.
Fraser, R. R. and **McGreer, D. E.** N.M.R. spectra of some α–β unsaturated esters, 505.
Freeman, G. R. See Ramaradhya, J. M., 1769, 1836, 1843.
French, W. N. and **MacLean, D. B.** *Lycopodium* alkaloids. XI. The structure and reactions of acrifoline, 2100.
Freure, R. J. See Brown, W. H., 1086.
Friesen, H. See Campbell, A. N., 735.
Fritze, K., Kennett, T. J., and **Prestwich, W. V.** Half-lives of Rb^{94}, Sr^{94}, Y^{94}, Rb^{95}, Sr^{95}, Y^{95}, 675.
Funt, B. L. Scintillation counting with organic phosphors, 711.
Gallay, L. R. See Ackman, R. G., 1956.
Garmaise, D. L., Kay, R. W., Gaudry. R., Baker, H. A., and **McKay, A. F.** Bacteriostats. V. The preparation and bacteriostatic properties of amidine derivatives, 1493.

Garmaise, D. L. and **Uchiyama, A.** Some stable dimers of substituted benzylcyanamides, 1054.
Gatzke, A. L. and **Stewart, R.** Carbonium perchlorates in chloroform solution, 1849.
Gaudry, R. See Garmaise, D. L., 1493; Deghenghi, R., 1553.
Giddings, J. C. See Shin, H. K., 2502.
Giguère, P. A. and **Chin, D.** An infrared study of trimethylamine oxide, its hydrate, and its hydrochloride, 1214.
Gillespie, R. J. Bond lengths and bond angles in octahedral, trigonal-bipyramidal, and related molecules of the non-transition elements, 318.
The stereochemistry of eight-co-ordination: the nature of the bonding in the $Mo_6Cl_8^{4+}$, $Nb_6Cl_{12}^{2+}$, and related ions, 2336.
See also Barr, J., 1266.
Gillespie, R. J. and **Robinson, E. A.** The vibrational spectra of sulphuryl and thionyl halides, 2171.
The Raman spectra of some polysulphuryl chlorides and fluorides, 2179.
The Raman spectra of liquid sulphur trioxide and solutions of sulphur trioxide in inert solvents, 2189.
Gingras, B. A. See Sirianni, A. F., 331.
Gingras, B. A., Somorjai, R. L., and **Bayley, C. H.** The preparation of some thiosemicarbazones and their copper complexes. Part II, 973.
Gleason, C. H. See Wasson, B. K., 923.
Glentworth, P. and **Betts, R. H.** The effect of beta-decay on the exchange properties of the rare earth – EDTA complex ions, 1049.
Goldschmid, H. R. and **Perlin, A. S.** Some factors affecting the Königs–Knorr synthesis of glycosides, 2025.
Gorin, P. A. J. and **Perlin, A. S.** Configuration of glycosidic linkages in oligosaccharides. IX. Synthesis of α- and β-D-mannopyranosyl disaccharides, 2474.
Gorin, P. A. J. and **Spencer, J. F. T.** Extracellular acidic polysaccharides from *C. insidiosum* and other *Corynebacterium* spp., 2274.
Structural relationships of extracellular polysaccharides from phytopathogenic *Xanthomonas* spp. Part I. Structure of the extracellular polysaccharide from *Xanthomonas stewartii*, 2282.
Gorin, P.-A. J., Spencer, J. F. T., and **Tulloch, A. P.** Hydroxy fatty acid glycosides of sophorose from *Torulopsis magnoliae*, 846.
Gorin, P. A. J., Spencer, J. F. T., and **Westlake, D. W. S.** The structure and resistance to methylation of 1,2-β-glucans from species of Agrobacteria, 1067.
Granger, M. R. See Stewart, R., 2508.
Grant, R. F. and **Dunell, B. A.** Phase transitions in some anhydrous potassium soaps, 359.
Gravel, D. See Favre, H., 1548.
Gray, A. H. See Barclay, L. R. C., 870.
Greenhalgh, R. and **Bannard, R. A. B.** Guanidine compounds. IV. Acetylation of some alkyl-substituted guanidines with acetic anhydride and ethyl acetate, 1017.
Griffiths, J. E. and **Onyszchuk, M.** Organogermanium compounds. Part I. The interaction of hexamethyldigermoxane and trimethylmethoxygermane with boron trifluoride, 339.
Grivas, J. C. and **Taurins, A.** Infrared spectra – structure correlations of N-substituted trifluoroacetamidines, 414.
Further studies on the reaction between halogen-substituted nitriles and amines, 761.
Grjotheim, K., Herstad, O., and **Toguri, J. M.** The aluminum reduction of magnesium oxide. I. The vapor pressure of magnesium over the system Al–MgO, 443.
The aluminum reduction of magnesium oxide. II. The vapor pressure of magnesium over the system Al–MgO–CaO, 2290.
Gunner, S. W., Jones, J. K. N., and **Perry, M. B.** The gas–liquid partition chromatography of carbohydrate derivatives. Part I. The separation of glycitol and glycose acetates, 1892.
Gunning, H. E. See Knight, A. R., 1231, 2251, 2466; Strausz, O. P., 2244, 2549.
Gupta, M. P. and **Barnes, W. H.** The potassium salts of fumaric acid: preparation, unit cell constants, space groups, and X-ray diffraction powder identification data, 1739.
Hahn, E. A. and **Peters, E.** The kinetics and mechanism of the Cu^{++}-catalyzed reduction of Cr^{VI} by hydrogen in aqueous solutions, 162.
Halpern, J. See Harrod, J. F., 1372; May, J. W., 1377.
Hamer, D. and **Leslie, J.** Molecular addition compounds of trioxan, 1859.
Handa, K. L. See Edwards, O. E., 1801.
Haq, S. and **Adams, G. A.** Structure of an arabinogalactan from tamarack (*Larix laricina*), 1563.
Oligosaccharides from the sap of sugar maple (*Acer saccharum* Marsh), 1165.
Harris, W. E. Chemical effects of the (n,γ) activation of bromine in the alkyl bromides: The halomethanes, 121.
See also Jones, T. P., 2371.
Harrison, A. G. See Pottie, R. F., 102; Shannon, T. W., 1392.
Harrison, W. A., Curcumelli-Rodostamo, M., Carson, D. F., Barclay, L. R. C., and **MacLean, D. B.** *Lycopodium* alkaloids. X. The structure of lycopodine, 2086.
Harrod, J. F., Ciccone, S., and **Halpern, J.** Catalytic activation of molecular hydrogen by ruthenium (III) chloride complexes, 1372.
Hawkins, L. R. See Bannard, R. A. B., 1530.
Heacock, R. A., Hutzinger, O., and **Nerenberg, C.** A note on the preparation of some 1-phenyl-2-nitroethanol derivatives, 1143.

Heacock, R. A., Mahon, M. E., and **Scott, B. D.** The preparation, paper chromatography, and color reactions of several 5,6-dihydroxyindoles and 5,6-diacetoxyindoles, 231.
Heit, M. L. See Brown, E. C., 1290.
Henderson, J. F. See Blake, A. R., 1920.
Herndon, W. C. See Lewis, E. S., 954.
Herstad, O. See Grjotheim, K., 443, 2290.
Heyding, R. D. and **Calvert, L. D.** Arsenides of the transition metals. IV. A note on the platinum metal arsenides, 955.
Hochstrasser, R. M. The polarization of the fluorescence of 1- and 2-naphthoic acid, 1853.
The luminescence of complex molecules in relation to the internal conversion of excitation energy. Part III. The total emission spectra of 1-naphthoic acid, 1776.
The absorption spectrum of diphenylene in the near-ultraviolet, 765.
The crystal spectrum of perylene, 451.
The effect of intramolecular twisting on the emission spectra of hindered aromatic molecules. Part I. 1,1′-Binaphthyl, 459.
Hoffer, M. See Lemieux, R. U., 110.
Hogg, J. S., Lohmann, D. H., and **Russell, K. E.** The reaction of 2,2-diphenyl-1-picrylhydrazyl with 9,10-dihydroanthracene and 1,4-dihydronaphthalene, 1394.
The kinetics of reaction of 2,2-diphenyl-1-picrylhydrazyl with phenols, 1588.
Holder, H. W. and **Kutschke, K. O.** A chemiluminescent reaction, 1552.
Holder, D. See Edward, J. T., 599.
Holloway, H. See Bradley, D. C., 1818.
Holt, A. S. See Morley, H. V., 755.
Hooley, J. G. The kinetics of the reaction of silica with group I hydroxides, 1221.
Howard, W. L. See Schantz, E. J., 2117.
Hutton, H. M. See Campbell, A. N., 1462.
Hutzinger, O. See Heacock, R. A., 1143.
Hyne, J. B. Sulphonium salt solvolysis. Part I. Effect of concentration, anion type, and solvent variation on rate of reaction, 1207.
Preferred residence conformations of diastereoisomeric α-β amino alcohols: an N.M.R. study of the ephedrines, 2536.
Hyne, J. B. and **Abrell, J. W.** Sulphonium salt solvolysis. Part II. Common-ion effect and the ion-pair mechanism in the solvolysis of dimethyl-*t*-butyl sulphonium salts, 1657.
Ibrahim, M. A. See Knop, O., 297.
Ingold, K. U. and **Taylor, D. R.** The infrared frequencies and intensities of the hydroxyl band in ortho-substituted phenols, 471.
The effect of solvent and temperature on the cis–trans isomerism of ortho-*tert*-alkyl phenols, 481.
Inman, D. and **Bockris, J. O'M.** The reversible electrode potential of the system U/UCl_3 in molten chloride, 1161.
Irish, D. E. See Bidinosti, D. R., 628.
Jamieson, N. C. and **Brown, R. K.** The preparation of some mercapto monosaccharides, 1765.
Jardine, D. A. See Edgecombe, F. H. C., 1728.
Jellinek, H. H. G. and **Bastien, I. J.** Photolysis of polyacrylonitrile, 2056.
Jenkinson, W. M. See Dyne, P. J., 933, 2163.
Jones, G. A. See Bader, R. F. W., 1253.
Jones, G. R. H. and **Cvetanović, R. J.** Reaction of oxygen atoms with toluene, 2444.
Jones, J. K. N. See Gunner, S. W., 1892; Fraser-Reid, B., 555.
Jones, J. K. N., Perry, M. B., Shelton, B., and **Walton, D. J.** The carbohydrate–protein linkage in glycoproteins. Part I. The syntheses of some model substituted amides and an L-seryl-D-glucosaminide, 1005.
Jones, J. K. N., Perry, M. B., and **Turner, J. C.** The synthesis of acetamido-deoxy ketoses by *Acetobacter suboxydans*. Part I, 965.
The synthesis of acetamido-deoxy ketoses by *Acetobacter suboxydans*. Part II, 2400.
Jones, J. K. N., Purves, C. B., and **Timell, T. E.** Constitution of a 4-*O*-methylglucuronoxylan from the wood of trembling aspen (*Populus tremuloides* Michx.), 1059.
Jones, J. K. N. and **Thomas, G. H. S.** The structure of the "gum asafoetida" polysaccharide, 192.
Jones, R. N. See Noack, K., 2201, 2225.
Jones, R. N. and **Noack, K.** Conformational equilibria in diethyl ketone, 2214.
Jones, T. P., Harris, W. E., and **Wallace, W. J.** Substitution at octahedral centers. II. Effect of salts upon the rate of hydrolysis of the halopentamminechromium (III) ions, 2371.
Just, G. See Engel, Ch. R., 1805; Nagarajan, R., 1274.
Just, G. and **Nagarajan, R.** Steroids. I. 12β-Methyl-12α-hydroxyprogesterone, 548.
Kaplan, M. See Coryell, C. D., 646.
Kapoor, R. C., Agrawal, O. P., and **Seth, T. D.** Polarographic determination of the dissociation constant of the sulphydryl group and diffusion coefficient measurements of thiomalic acid, 2236.
Kartzmark, E. M. See Campbell, A. N., 735, 1462.
Kay, R. W. See Garmaise, D. L., 1493.
Kelly, R. The attachment of inert gases to powders following (n,γ) events, 664.
The diffusion of "attached" inert-gas activity, 2411.
Kennett, T. J. See Fritze, K., 675.
Khan, M. S. Y. See Varshney, I. P., 1721.

Kiefer, J. H. See Bauer, S. H., 1113.
King, G. W. and **Malli, G. L.** The electronic states of linear methylene, 1652.
Kirschner, S. See Albinak, M. J., 2360.
Kita, H., Enyo, M., and **Bockris, J. O'M.** The velocity of rate-controlling surface diffusion reactions in the electrodeposition of metals as a function of dislocation density, 1670.
Kjelberg, A., Taniguchi, H., and **Yaffe, L.** Distribution of nuclear charge in the proton-induced fission of Th^{232}. Part II, 635.
Klauser, H. E. See Little, L. H., 42.
Knight, A. R. and **Gunning, H. E.** Primary methoxy radical formation in the reaction of methanol vapor with Hg $6(^3P_1)$ atoms, 1231.
Primary quantum yield determination by intermittent illumination in the reaction of methanol vapor with Hg $6(^3P_1)$ atoms, 2251.
The reaction of ethanol vapor with Hg $6(^3P_1)$ atoms, 2466.
Knop, O. and **Ibrahim, M. A.** Chalkogenides of the transition elements. II. Existence of the π phase in the M_9S_8 section of the system Fe–Co–Ni–S, 297.
Knop, O. and **MacDonald, R. D.** Chalkogenides of the transition elements. III. Molybdenum ditelluride, 897.
Koller, A. E. See Levi, I., 2491.
Komlossy, J. See Menard, M., 729.
Kooiman, P. and **Adams, G. A.** Constitution of a glucomannan from tamarack (*Larix laricina*), 889.
Kovachic, D. See Renaud, R. N., 21.
Kovachic, D. and **Leitch, L. C.** Organic deuterium compounds. XXIII. Synthesis of deuterated olefins, 363.
Krueger, P. J. See Dunn, G. E., 180.
Kulka, M. Octahalogenodibenzo-*p*-dioxins, 1973.
Kuntze, R. A. The crystallization of polyamino polyacetic acids in an ion exchange membrane chamber, 1727.
Kuroda, H. and **Flood, E. A.** Effect of ambient oxygen on the semiconductivities of evaporated films of mesonaphthodianthrene and mesonaphthodianthrone, 1475.
The effect of the ambient oxygen on the electrical properties of an evaporated film of pentacene, 1981.
Kutschke, K. O. See Blake, A. R., 278, 1920; Holden, H. W., 1552; Shahin, M., 75.
Laflamme, G. See Levi, I., 2491.
Lalancette, J. M. See Billy, J. M., 835.
Lang, A. R. G. See Sepall, O., 827.
Larose, P. The effect of hydrogen chloride on the near-infrared spectrum of nylon, 2394.
Laughton, P. M. and **Robertson, R. E.** Solvolysis in hydrogen and deuterium oxide. IV. Halides with neighboring groups, 2155.
Lazdunski, M. and **Ouellet, L.** Phosphatase alcaline intestinale: cinétique de l'hydrolyse du phosphate de *p*-nitrophényle, 1298.
L'Ecuyer, Ph. See Bagli, J. F., 1037; Cullen, E., 144, 155, 382, 862.
Lee, C. C. See Clayton, J. W., 1510.
Lee, C. C. and **Finlayson, A. J.** Rearrangement in the reaction between thionyl chloride and 3-methyl-2-butanol, 260.
Lee, C. C. and **Samuels, E. R.** Adducts from the reaction of N-ethylmaleimide with L-cysteine and with glutathione, 1152.
Leffek, K. T., Robertson, R. E., and **Sugamori, S. E.** Deuterium kinetic isotope effects. V. Temperature dependence of β-deuterium effects in water solvolysis of isopropyl compounds, 1989.
Leitch, L. C. See Kovachic, D., 363; Renaud, R. N., 21, 261.
Leja, J. See Little, L. H., 745, 1783.
Lemieux, R. U. The configuration and conformation of thymidine, 116.
Lemieux, R. U. and **Hoffer, M.** Exceptions to Hudson's rules of isorotation. The nuclear magnetic resonance spectra of anomeric pyrimidine 2-deoxy-D-ribonucleosides, 110.
Leslie, J. See Hamer, D., 1859.
Levi, I. See Wasson, B. K., 923.
Levi, I., Weed, J. W. R., Laflamme, G., and **Koller, A. E.** Reversible N,O-haloacyl shift in serine derivatives with antitumor activity, 2491.
Lewis, E. S., Brown, J. C., and **Herndon, W. C.** Isotope effects in carbonium ion reactions. V. Solvolysis of methyl and ethyl *p*-bromobenzenesulphonates, 954.
Lipinsky, S. See Yates, P., 1977.
Lister, M. W. Complex periodates and tellurates, 2330.
See also Reimer, I., 2431.
Lister, M. W. and **Rosenblum, P.** The oxidation of nitrite and iodate ions by hypochlorite ions, 1645.
Lister, M. W. and **Wilson, D. W.** Stability of $CoBr^+$ and $NiBr^+$, 2606.
Lister, M. W. and **Yoshino, Y.** Oxidation of manganate by hypochlorite, 96.
Little, L. H., Klauser, H. E., and **Amberg, C. H.** An infrared study of the adsorption of butenes on surfaces of porous Vycor glass, 42.
Little, L. H., Poling, G. W., and **Leja, J.** Infrared spectra of xanthate compounds. II. Assignment of vibrational frequencies, 745.
Infrared spectra of xanthate compounds. III. Organic solvent effect on the C=S frequency, 1783.
Loader, B. E. See Bauer, S. H., 1113.

Lohmann, D. H. See Hogg, J. S., 1394, 1588.
Lossing, F. P. See Pottie, R. F., 102, 1900.
Lunn, W. H. See Edward, J. T., 599.
Lynch, J. M. See Schantz, E. J., 2117.
McBryde, W. A. E. and **Atkinson, G. F.** Spectrophotometric study of the reaction between iron (III) and kojic acid, 510.
McCowan, J. D. and **McIntosh, R.** The complex dielectric constant at low microwave frequencies of ethyl chloride adsorbed on porous Vycor glass, 425.
MacDonald, J. A. See McInnes, A. G., 1906.
MacDonald, R. D. See Knop, O., 897.
MacDonald, S. F. See Arsenault, G. P., 2043.
McDowell, C. A. See Bell, K. M., 1419, 1424.
McGreer, D. E. See Fraser, R. R., 505.
McInnes, A. G., Cooper, F. P., and **MacDonald, J. A.** Further evidence for cyclic monomers in heated linseed oil, 1906.
McIntosh, R. See McCowan, J. D., 425; Ripley, B. D., 526; Weiler, R. R., 1360.
McIntyre, J. D. See Davies, J. A., 611.
McKay, A. F. See Garmaise, D. L., 1493.
McKelvey, S. A. See Dutton, G. G. S., 2582.
MacLean, D. B. See French, W. N., 2100; Harrison, W. A., 2086.
McMichael, K. D. and **Clement, R. A.** Solvation effects and relative rates. III. Salt effects in the solvolysis of exo-norbornyl bromide, 957.
McRae, J. A., Allen, M., and **Moir, R. Y.** Ortho-substituted chlorobenzenes related to metameconine, 995.
Mahon, M. E. See Heacock, R. A., 231.
de Maine, P. A. D. and **Russell, E. R.** Design and calibration of an inexpensive free-flow electroviscometer, 1929.
Inorganic salts dissolved in non-aqueous or in mixed solvents. XIII. Viscosity studies of $SnCl_4 . 5H_2O$ and $SnCl_2 . 2H_2O$ dissolved separately and together in methanol – carbon tetrachloride, 1502.
Mak, T. C-W. See Osborn, A. R., 1101.
Malaiyandi, M., Sawatzky, H., and **Wright, G. F.** The reversibility of aromatic mercuration, 1827.
Malli, G. L. See King, G. W., 1652.
Mancera, O. See Azpeitia, E., 2321.
Marion, L. See Przybylska, M., 2124; Riggs, N. V., 1330; Skarić, V., 1579.
Mason, S. G. See Sepall, O., 827, 1934, 1944.
Matsuo, T. and **Sugihara, T. T.** Evidence for low-momentum-transfer process in $K^{41}(\alpha,n)Sc^{44m,g}$ reactions from range measurements or products, 697.
Matthews, J. S. See Azpeitia, E., 2321.
Mavroyannis, C. and **Winkler, C. A.** The reaction of nitrogen atoms with oxygen atoms in the absence of oxygen molecules, 1601.
May, J. W. and **Halpern, J.** Kinetics of the oxidation of hydrazobenzene by iodine and triiodide, 1377.
de Mayo, P., Spencer, E. Y., and **White, R. W.** Helminthosporal, the toxin from *Helminthosporium sativum*. I. Isolation and characterization, 1608.
de Mayo, P., Stothers, J. B., and **Templeton, W.** Photochemical syntheses. I. The reaction of aldehydes and ketones with cycloalkenes, 488.
de Mayo, P., Stothers, J. B., and **Yip, R. W.** The irradiation of β-ionone, 2135.
Mehrotra, R. C. See Mehrotra, R. K., 795.
Mehrotra, R. K. and **Mehrotra, R. C.** Reactions of aluminum alkoxides with acetylacetone, benzoylacetone, and ethyl acetoacetate, 795.
Menard, M., Mitchell, L., Komlossy, J., Wrigley, A., and **Chubb, F. L.** The structure of di-*tert*-butylnaphthalenesulphonic acids, 729.
Menard, M., Wrigley, A. M., and **Chubb, F. L.** The rearrangement of 2-imino-1,3-oxathiane, 273.
Metanomski, W. See Spinner, I. H., 2529.
Miller, G. H. See Pritchard, G. O., 1968.
Milligan, C. E. See Barclay, L. R. C., 870.
Mitchell, L. See Menard, M., 729.
Moir, R. Y. See McRae, J. A., 995.
Mold, J. D. See Schantz, E. J., 2117.
Mootoo, B. S. See Burnell, R. H., 1090.
Morand, P. F. See Edward, J. T., 2069.
Morley, H. V. and **Holt, A. S.** Studies on *Chlorobium* chlorophylls. II. The resolution of oxidation products of *Chlorobium* pheophorbide (660) by gas–liquid partition chromatography, 755.
Muenster, L. J. See Stewart, R., 401.
Mukherjee, A. K., Choudhury, D., and **Bagchi, P.** Constitution of the galactomannan from the kernel of green palmyra palm nut (*Borassus flabellifer* Linn.), 1408.
Murata, T. G. See Dutton, G. G. S., 1995.
Murray, F. E. and **Sundaram, S.** Molecular interactions. I. Infrared spectra of some carboxylic acids in carbon tetrachloride and benzene solutions, 1625.
Myron, J. J. J. See Forbes, W. F., 2452.
Nagarajan, R. See Just, G., 548.

Nagarajan, R. and **Just, G.** Steroids. II. The stereochemistry of the addition of Grignard reagents to 12-ketosteroids, 1274.
Narasimhachari, N. and **von Rudloff, E.** The chemical composition of the wood and bark extractives of *Juniperus horizontalis* Moench, 2572.
Needleman, S. B. Amino acid distribution in biologically active peptides. II. Dipeptides having low statistical significance, 1732.
Nerenberg, C. See Heacock, R. A., 1143.
Newall, C. E. and **Eastham, A. M.** The relative basicities of water, methanol, and ethanol, 1752.
Nicholson, D. E. Integral heats of mixing of C_2-alkanes in perfluorotributylamine and in perfluorocyclic oxide ($C_8F_{16}O$) at 60° C, 1857.
Nicholson, W. H. See Fisher, M. H., 501, 785, 1336.
Nishizawa, E. See Amos, A. A., 1787.
Noack, K. See Jones, R. N., 2214.
Noack, K. and **Jones, R. N.** Some stereochemical studies on α,β-unsaturated ketones using Raman spectrophotometry, 2201.
Conformational equilibria in open-chain α,β-unsaturated ketones, 2225.
O'Brien, R. J. See Clark, H. C., 1030.
van Oene, H. See Cragg, L. H., 203.
Ogryzlo, E. A. Halogen atom reactions. I. The electrical discharge as a source of halogen atoms, 2556.
Oliver, B. H. See Brown, F., 616.
Onyszchuk, M. The interaction of disiloxane with boron trifluoride and trichloride, 808.
See also Griffiths, J. E., 339; Paterson, W. G., 986, 2324.
Osborn, A. R. and **Whalley, E.** Pressure effect and mechanism in acid catalysis. VI. Hydrolysis of α-D-glucose-1-phosphate, 597.
Pressure effect and mechanism in acid catalysis. VII. Hydrolysis of methyl, ethyl, and *t*-butyl acetates, 1094.
Osborn, A. R., Mak, T. C-W., and **Whalley, E.** Pressure effect and mechanism in acid catalysis. VIII. Hydrolysis of acetamide and benzamide, 1101.
Ouellet, L. See Lazdunski, M., 1298; Pelletier, G. E., 265, 1444.
Parker, J. M. See Wasson, B. K., 923.
Patel, C. C. See Shankaranarayana, M. L., 1633, 2590.
Paterson, W. G. and **Onyszchuk, M.** The interaction of boron trifluoride with hydrazine, 986.
Co-ordination compounds of hydrazine. Part II. The interaction of trimethylborane and trimethylaluminum with hydrazine, 2324.
Pelletier, G. E. and **Ouellet, L.** Influence of pH and temperature on myosin inactivation, 265.
The influence of hydrogen ion concentration on the myosin-catalyzed hydrolysis of adenosine triphosphate, 1444.
Pepper, J. M. and **Siddiqueullah, M.** Improvements in the acidolysis procedure for lignin isolation and in the procedure for the analysis of lignin oxidation products, 390.
The effect of initial acid concentration on the lignin isolated by the acidolysis of aspen wood, 1454.
Perila, O. and **Bishop, C. T.** Enzymic hydrolysis of a glucomannan from jack pine (*Pinus banksiana* Lamb.), 815.
Perlin, A. S. See Goldschmid, H. R., 2025; Gorin, P. A. J., 2474.
Perry, M. B. See Fraser-Reid, B., 555; Gunner, S. W., 1892; Jones, J. K. N., 965, 1005, 2400.
Peters, E. See Hahn, E. A., 162.
Pidgeon, L. M. See Toguri, J. M., 540.
Pittwell, L. R. Volatility of cupric nitrate, 2608.
Poling, G. W. See Little, L. H., 745, 1783.
Pottie, R. F., Harrison, A. G., and **Lossing, F. P.** Free radicals by mass spectrometry. XXII. Primary decomposition steps in the mercury-photosensitized decomposition of methanol and dimethyl ether, 102.
Pottie, R. F. and **Lossing, F. P.** Free radicals by mass spectrometry. XXVI. Primary steps in the mercury-photosensitized decomposition of methyl acetate, 1900.
Prestwich, W. V. See Fritze, K., 675.
Prevedorou, C. C. A. See Bradley, D. C., 1619.
Pritchard, G. O., Miller, G. H., and **Dacey, J. R.** Radical recombination reactions. Part II. Trifluoromethyl and heptafluoro-*n*-propyl radicals, 1968.
Prysiazniuk, R. See Dunn, G. E., 285.
Przybylska, M. and **Marion, L.** The molecular structure of (−)-N-methyl-gelsemicine hydriodide, $C_{21}H_{29}O_4N_2I$, 2124.
Purves, C. B. See Eisenbraun, A. A., 61; Eisenbraun, E., 1518, 2127; Jones, J. K. N., 1059.
Puskas, I. See Edward, J. T., 599, 2069.
Rabinovitch, B. S., Setser, D. W., and **Schneider, F. W.** Inverse intermolecular kinetic isotope effects in unimolecular reactions. Differential quantal effects in the non-equilibrium behavior, 2609.
Ramachandran, J. See Rao, C.N.R., 171.
Ramaseshan, S. See Aravamudan, G., 256.
Raman, R. and **Soundararajan, S.** Dipole moments and structure of molecular compounds. Part I. Aliphatic and aromatic amine picrates, 1247.

Ramaradhya, J. M. and **Freeman, G. R.** The radiolysis of cyclohexane. IV. Binary mixtures in the vapor phase, 1769.
The radiolysis of ethanol. I. Vapor phase, 1836.
The radiolysis of ethanol. II. Binary vapor mixtures, 1843.
Ramaradhya, J. M. and **Robertson, R. F.** Radioiodine exchange between iodostearic acid monolayers and substrate iodide. III, 1484.
Rao, C. N. R. Kinetics and thermodynamics of the crystal structure transformation of spectroscopically pure anatase to rutile, 498.
Rao, C. N. R., Ramachandran, J., and **Balasubramanian, A.** The infrared and the near-ultraviolet absorption spectra of polyphenyl derivatives of the elements of groups IV*b* and V*b*, 171.
Rao, C. N. R. and **Venkataraghavan, R.** Correlations of infrared group frequencies and band intensities in organic molecules with substituent constants: a statistical evaluation, 1757.
Rao, C. V. N., Choudhury, D., and **Bagchi, P.** A water-soluble galactomannan from coconut (*Cocos nucifera*). Part I. Methylation studies, 375.
Reeves, L. W. Hydrogen bonding in solutions of substituted acetic acids, 1711.
See also Chambers, R. D., 258.
Reeves, L. W. and **Strømme, K. O.** Proton resonance spectra of 8-hydroxy and 8-methyl quinoline, 2318.
Reimer, I. and **Lister, M. W.** The compounds $KMnIO_5$ and $NaMnIO_6$, 2431.
Renaud, R. N., Kovachic, D., and **Leitch, L. C.** Deuterated organic compounds. XXII. Synthesis of some deuterated benzene derivatives, 21.
Renaud, R. N. and **Leitch, L. C.** Synthesis of α-polyoxymethylene-C^{13} and α-polyoxymethylene-O^{18}, 261.
Retson, M. E. See Ackman, R. G., 1730, 1956.
Reynoso, J. See Azpeitia, E., 2321.
Riegel, B. See Schantz, E. J., 2117.
Riggs, N. V., Antonaccio, L., and **Marion, L.** A new quaternary aporphine from *Fagara tinguassoiba* Hoehne, 1330.
Ringold, H. J. See Burstein, S. H., 1848.
Ripley, B. D. and **McIntosh, R.** The complex dielectric constant of solutions of trimethylpentane and nitrobenzene near the consolute temperature, 526.
Ritcey, G. M. See Ashbrook, A. W., 1109.
Rivest, R. See Rivet, E., 2343.
Rivet, E., Aubin, R., and **Rivest, R.** Co-ordination complexes of titanium (IV) halides. II. Preparation and infrared spectra of the complexes of titanium tetrachloride with diesters of α,ω-dicarboxylic acids and comparison with analogous complexes of zirconium tetrachloride and tin tetrachloride, 2343.
Robertson, R. E. See Barnard, P. W. C., 881; Laughton, P. M., 2155; Leffek, K. T., 1989.
Robertson, R. F. See Ramaradhya, J. M., 1484.
Robinson, E. A. Characteristic vibrations of the sulphuryl group, 247.
See also Barr, J., 1266; Gillespie, R. J., 2171, 2179, 2189.
Robinson, F. P. and **Brown, R. K.** Reductive cleavage of nitrogen–nitrogen bonds with Raney nickel and hydrazine, 1171.
Rodewald, W. See Dunn, G. E., 180.
Rosenblum, P. See Lister, M. W., 1645.
Roy, L. P. See Dyne, P. J., 933.
von Rudloff, E. Gas–liquid chromatography of terpenes. Part II. The dehydration products of α-terpineol, 1.
Gas–liquid chromatography of terpenes. Part III. The use of oleic acid esters as liquid phases, 1190.
Gas–liquid chromatography of terpenes. Part IV. The analysis of the volatile oil of the leaves of Eastern white cedar, 1200.
A simple reagent for the specific dehydration of terpene alcohols, 1860.
See also Narasimhachari, N., 2572.
Russell, E. R. See de Maine, P. A. D., 1502, 1929.
Russell, K. E. See Hogg, J. S., 1394, 1588.
Ryan, D. E. The separation of small amounts of the platinum metals. 1. The colorimetric determination of rhodium and its separation from iridium, 2389.
See also Brown, E. C., 1290.
Salazar, J. See Azpeitia, E., 2321.
Samuels, E. R. See Lee, C. C., 1152.
Sandor, J. E. Exchange reactions between zinc and its ions, 393.
Surface exchange reactions of silver and its ions, 1869.
Santry, D. C. See Butler, J. P., 689.
Sawatzky, H. See Malaiyandi, M., 1827.
Schaefer, T. Solvent effects on the ring proton magnetic resonance spectra of some substituted quinolines, 1864.
Schantz, E. J., Mold, J. D., Howard, W. L., Bowden, J. P., Stanger, D. W., Lynch, J. M., Wintersteiner, O. P., Dutcher, J. D., Walters, D. R., and **Riegel, B.** Paralytic shellfish poison. VIII. Some chemical and physical properties of purified clam and mussel poisons, 2117.

Scherf, G. W. H. and **Brown, R. K.** Potassium derivatives of fluorene as intermediates in the preparation of C_9-substituted fluorenes. III. The influence of solvent and metal in the formation of C_9-substituted fluorenes from 9-fluorenyl metals, 799.

Deuteration of fluorene at C_9 and the assignment of certain bands in the infrared spectrum to the $\rangle CDH$ and $\rangle CD_2$ groups, 856.

The acidity of 9-monoalkyl- (or aryl-) fluorenes, 1388.

The reaction of benzoyl chloride and ethyl benzoate with some alkali metal salts of fluorene, 1613.

Schneider, F. W. See Rabinovitch, B. S., 2609.
Schneider, W. G. See Smith, I. C., 1158.
Schonbaum, G. R. See Allen, A. D., 940, 947.
Schreiber, H. P. Some remarks on aggregation of polythene in solution, 1557.
Schwemin, M. V. H. See Bailey, A. S., 1147.
Scott, B. D. See Heacock, R. A., 231.
Secco, E. A. Diffusion of Zn in ZnO, 1544.
Sepall, O., Lang, A. R. G., and **Mason, S. C.** A counter for measurement of tritium exchange in solids, 827.
Sepall, O. and **Mason, S. G.** Hydrogen exchange between cellulose and water. I. Measurement of accessibility, 1934.

Hydrogen exchange between cellulose and water. II. Interconversion of accessible and inaccessible regions, 1944.

Seth, T. D. See Kapoor, R. C., 2236.
Setser, D. W. See Rabinovitch, B. S., 2609.
Shahin, M. and **Kutschke, K. O.** Photooxidation of azomethane. IV. The role of formaldehyde, 73.
Shankaranarayana, M. L. and **Patel, C. C.** Infrared spectra and the structures of xanthates and dixanthogens, 1633.

The electronic absorption spectra of dixanthogens, 2590.

Shannon, T. W. and **Harrison, A. G.** The heat of formation of the formyl radical, 1392.
Shaw, D. J. and **Dunell, B. A.** Fine structure in the proton magnetic resonance spectrum of 6–6 nylon, 1154.
Shelton, B. See Jones, J. K. N., 1005.
Sherif, S. β-Aroyl-α- and -β-arylpropionic acids. Part I. Their preparation and lactonization, 2563.
Shin, H. K. and **Giddings, J. C.** Steady-state departure in enzyme reactions, 2502.
Siddiqueullah, M. See Pepper, J. M., 390, 1454.
Siddiqui, I. R. and **Adams, G. A.** An extracellular polysaccharide from *Gibberella fujikuroi* (*Fusarium moniliforme*), 1683.
Siddiqui, I. R., Bishop, C. T., and **Adams, G. A.** An alternative synthesis of 5-*O*-methyl-L-arabinose, 1595.
Silbert, M. D. and **Tomlinson, R. H.** A gas-chromatographic apparatus for the study of the hot-atom chemistry of organic halides, 706.
Sims, G. A. See Davies, J. A., 601, 611.
Sirianni, A. F. and **Gingras, B. A.** Some properties of pure polyoxyethyleneglycol ethers in solution, 331.
Skarić, V. and **Marion, L.** The epimerization of delcosine, 1579.
Smith, I. C. and **Schneider, W. G.** The proton magnetic resonance spectrum and the charge distribution of the pyridinium ion, 1158.
Somorjai, R. L. See Gingras, B. A., 973.
Sonnessa, A. J. See Albinak, M. J., 2360.
Soundararajan, S. See Raman, R., 1247.
Spencer, E. Y. See de Mayo, P., 1608; Stothers, J. B., 1389.
Spencer, J. F. T. See Gorin, P. A. J., 846, 1067, 2274, 2282.
Spenser, I. D. See Ahmad, A., 1340.
Spinner, I. H., Yannopoulos, J., and **Metanomski, W.** Oxidation–reduction polymers. I. Synthesis of monomers, 2529.
Stairs, R. A., and **Burns, J. W.** Kinetics of Etard's reaction, 960.
Stanger, D. W. See Schantz, E. J., 2117.
Steacie, E. W. R. See Boddy, P. J., 13.
Stewart, R. See Gatzke, A. L., 1849.
Stewart, R. and **Granger, M. R.** The basicities of ortho-substituted benzoic acids, 2508.
Stewart, R. and **Muenster, L. J.** Protonation of the amide group. II. Dicyclohexylurea-O^{18}, 401.
Stone, J. A. See Dyne, P. J., 2381.
Stoodley, R. J. The preparation of *erythro*-3-pentulose, 2593.
Stothers, J. B. See de Mayo, P., 488, 2135.
Stothers, J. B. and **Spencer, E. Y.** Nuclear magnetic resonance spectra of a vinyl phosphate and thionophosphate isomers (Phosdrin and 'thionoPhosdrin'), 1389.
Strausz, O. P. and **Gunning, H. E.** The decomposition of carbon dioxide by Hg $6(^3P_1)$ and Hg $6(^3P_0)$ atoms, 2244.

The Hg $6(^3P_1)$-photosensitized decomposition of nitric oxide, 2549.

Strømme, K. O. See Reeves, L. W., 2318.
Stuart, R. S. See Fisher, M. H., 501, 785, 1336.
Sugamori, S. E. See Leffek, K. T., 1989.
Sugihara, T. T. See Matsuo, T., 697.
Sundaram, S. See Murray, F. E., 1625.
Tailleur, P. and **Berlinguet, L.** Synthèses de courts peptides renfermant des acides amino-1 cycloalkyl carboxyliques, 1309.
Tanaka, Y. See Dutton, G. G. S., 1797.
Taniguchi, H. See Kjelberg, A., 635.
Taurins, A. See Frangatos, G., 410; Grivas, J. C., 414, 761.
Taylor, D. R. See Ingold, K. U., 471, 481.
Taylor, J. H. and **Amberg, C. H.** Infrared spectra of gases chemisorbed on zinc oxide. I. CO and CO_2, 535.
Templeton, W. See de Mayo, P., 488.
Tertzakian, G. See Abramovitch, R. A., 1733.
Thomas, G. H. S. See Jones, J. K. N., 192.
Thomas, I. M. The preparation of alkoxides and triethylsilanolates of Ti, Zr, V, Nb, Ta, and Sn from the dialkylamides, 1386.
Thompson, L. M. See Wasson, B. K., 923.
Tickner, A. W. The decomposition of methane in the negative glow, 87.
Timell, T. E. See Jones, J. K. N., 1059.
Toguri, J. M. See Grjotheim, K., 443, 2290.
Toguri, J. M. and **Pidgeon, L. M.** High-temperature studies of metallurgical processes. Part I. The thermal reduction of magnesium oxide with silicon, 540.
Tomlinson, R. H. See Bidinosti, D. R., 628; Farrar, H., 681; Silbert, M. D., 706.
Toporowski, P. M. See Cowie, J. M. G., 2240.
Trotter, J. The crystal structure of 1,4-dibromonaphthalene, 1574.
The crystal and molecular structures of *m*-dinitrobenzene and *p*-dinitrobenzene, 1638.
The crystal structure of 1,3-dichloronaphthalene, 1964.
See also Camerman, N., 2133; Cullen, W. R., 2602.
Tsu, K. and **Boudart, M.** Recombination of atoms at the surface of thermocouple probes, 1239.
Tulloch, A. P. See Gorin, P. A. J., 846.
Turner, J. C. See Jones, J. K. N., 965, 2400.
Uchiyama, A. See Garmaise, D. L., 1054.
Vandenheuvel, F. A. See Ackman, R. G., 1730, 1956.
Varshney, I. P. and **Khan, M. S. Y.** Saponins and sapogenins. XI. On the presence of echinocystic acid and quercetin in flowers of *Albizzia lebbek* Benth., 1721.
Venkataraghavan, R. See Rao, C. N. R., 1757.
Vossius, D. See Yates, P., 1997.
Wallace, W. J. See Jones, T. P., 2371.
Walters, D. R. See Schantz, E. J., 2117.
Walton, D. J. See Jones, J. K. N., 1005.
Wardlaw, (the late) W. See Bradley, D. C., 1619.
Wasson, B. K., Gleason, C. H., Levi, I., Parker, J. M., Thompson, L. M., and **Yates, C. H.** Tetrahydrofurans. I. 2,2-Dimethyl-4-substituted-4-hydroxymethyltetrahydrofurans and related compounds, 923.
Weed, J. W. R. See Levi, I., 2491.
Weiler, R. R., Beeckmans, J., and **McIntosh, R.** Adsorption of benzene and ethanol up to high relative pressures on finely divided sodium chloride. Part I. Particle size effects and the adsorption of benzene. Part II. The lowering of surface free energy by ethanol, 1360.
Westlake, D. W. S. See Gorin, P. A. J., 1067.
Westland, A. D. See Bader, R. F. W., 2306.
Westland, A. D. and **Bhiwandker, N. C.** π-Bonding in inorganic compounds. III. A magnetochemical study of hexahaloosmates and hexachlororhenate, 1284.
π-Bonding in inorganic compounds. IV. Role of unpaired electrons in hexahalo complexes, 2353.
Westland, A. D. and **Westland, L.** π-Bonding in inorganic compounds. II. The transmission of electronic effects through square-planar complexes, 324.
Westland, L. See Westland, A. D., 324.
Whalley, E. See Osborn, A. R., 597, 1094, 1101.
Wheeler, O. H. Steric configuration of the ether group in ortho alkoxy and aryloxy benzoic acids, 2603.
White, R. W. See de Mayo, P., 1608.
Willis, C. J. See Chambers, R. D., 131, 258.
Wilson, D. W. See Lister, M. W., 2606.
Winkler, C. A. See Mavroyannis, C., 1601.
Wintersteiner, O. P. See Schantz, E. J., 2117.
Wright, G. F. See Amos, A. A., 1787; Malaiyandi, M., 1827.
Wrigley, A. M. See Menard, M., 273, 729.
Yaffe, L. See Drouin, J. R. S., 717; Kjelberg, A., 635.
Yannopoulos, J. See Spinner, I. H., 2529.
Yates, C. H. See Wasson, B. K., 923.
Yates, P., Lipinsky, S., and **Vossius, D.** α-Ketoethers. II. Infrared spectra and rotational i- of phenacyl ethers, 1977.
Yip, R. W. See de Mayo, P., 2135.
Yoshino, Y. See Lister, M. W., 96.
Yu, K. C. See Bartlett, N., 80.